Connecting via Winsock to STN

Welcome to STN International! Enter x:x

LOGINID:ssptacmb1647

PASSWORD:
TERMINAL (ENTER 1, 2, 3, OR ?):2

* * * * * * * * * * Welcome to STN International * * * * * * * * * *

NEWS 1		Web Page for STN Seminar Schedule - N. America
NEWS 2	DEC 01	ChemPort single article sales feature unavailable
NEWS 3	APR 03	CAS coverage of exemplified prophetic substances enhanced
NEWS 4	APR 07	STN is raising the limits on saved answers
NEWS 5	APR 24	CA/CAplus now has more comprehensive patent assignee information
NEWS 6	APR 26	USPATFULL and USPAT2 enhanced with patent assignment/reassignment information
NEWS 7	APR 28	CAS patent authority coverage expanded
NEWS 8	APR 28	ENCOMPLIT/ENCOMPLIT2 search fields enhanced
NEWS 9	APR 28	Limits doubled for structure searching in CAS REGISTRY
NEWS 10	MAY 08	STN Express, Version 8.4, now available
NEWS 11	MAY 11	STN on the Web enhanced
NEWS 12	MAY 11	BEILSTEIN substance information now available on STN Easy
NEWS 13	MAY 14	DGENE, PCTGEN and USGENE enhanced with increased limits for exact sequence match searches and introduction of free HIT display format
NEWS 14	MAY 15	INPADOCDB and INPAFAMDB enhanced with Chinese legal status data
NEWS 15	MAY 28	CAS databases on STN enhanced with NANO super role in records back to 1992
NEWS 16	JUN 01	CAS REGISTRY Source of Registration (SR) searching enhanced on STN

NEWS EXPRESS MAY 26 09 CURRENT WINDOWS VERSION IS V8.4,
AND CURRENT DISCOVER FILE IS DATED 06 APRIL 2009.

NEWS HOURS STN Operating Hours Plus Help Desk Availability
NEWS LOGIN Welcome Banner and News Items

Enter NEWS followed by the item number or name to see news on that specific topic.

* * * * * * * * * * * * * * * * STN Columbus * * * * * * * * * * * * * * * *

FILE 'HOME' ENTERED AT 10:09:16 ON 10 JUN 2009

```
=> file medline biosis caplus embase
COST IN U.S. DOLLARS                                    SINCE FILE      TOTAL
                                                           ENTRY    SESSION
FULL ESTIMATED COST                                         0.22       0.22

FILE 'MEDLINE' ENTERED AT 10:09:42 ON 10 JUN 2009

FILE 'BIOSIS' ENTERED AT 10:09:42 ON 10 JUN 2009
Copyright (c) 2009 The Thomson Corporation

FILE 'CAPLUS' ENTERED AT 10:09:42 ON 10 JUN 2009
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2009 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'EMBASE' ENTERED AT 10:09:42 ON 10 JUN 2009
Copyright (c) 2009 Elsevier B.V. All rights reserved.

=> s KURIHARA H?/AU
L1        3876 KURIHARA H?/AU

=> s l1 and periodon?
L2         290 L1 AND PERIODON?

=> s l2 and neurotroph?
L3          16 L2 AND NEUROTROPH?

=> dup rem l3
PROCESSING COMPLETED FOR L3
L4           5 DUP REM L3 (11 DUPLICATES REMOVED)

=> s Kawaguchi H?/au
L5        5694 KAWAGUCHI H?/AU

=> s l5 and periodon?
L6          78 L5 AND PERIODON?

=> s l6 and neurotroph?
L7          12 L6 AND NEUROTROPH?

=> dup rem l7
PROCESSING COMPLETED FOR L7
L8           4 DUP REM L7 (8 DUPLICATES REMOVED)

=> s takeda K?/au
L9       14861 TAKEDA K?/AU

=> s l9 and periodon?
L10         41 L9 AND PERIODON?

=> s l10 and neurotroph?
L11         16 L10 AND NEUROTROPH?

=> dup rem l11
PROCESSING COMPLETED FOR L11
L12          5 DUP REM L11 (11 DUPLICATES REMOVED)

=> s shiba h?/au
L13        818 SHIBA H?/AU

=> s l13 and periodon?
```

```
L14        118 L13 AND PERIODON?

=> s l14 and neurotroph?
L15         16 L14 AND NEUROTROPH?

=> dup rem l15
PROCESSING COMPLETED FOR L15
L16          5 DUP REM L15 (11 DUPLICATES REMOVED)

=> mizuno n?/au
MIZUNO IS NOT A RECOGNIZED COMMAND
The previous command name entered was not recognized by the system.
For a list of commands available to you in the current file, enter
"HELP COMMANDS" at an arrow prompt (=>).

=> s mizuno n?/au
L17       3797 MIZUNO N?/AU

=> s l17 and periodon?
L18         52 L17 AND PERIODON?

=> s l18 and neurotroph?
L19         12 L18 AND NEUROTROPH?

=> dup rem l19
PROCESSING COMPLETED FOR L19
L20          4 DUP REM L19 (8 DUPLICATES REMOVED)

=> s yoshino h?/au
L21       3348 YOSHINO H?/AU

=> s l21 and periodon?
L22         30 L21 AND PERIODON?

=> s l22 and neurotroph?
L23          9 L22 AND NEUROTROPH?

=> dup rem l23
PROCESSING COMPLETED FOR L23
L24          3 DUP REM L23 (6 DUPLICATES REMOVED)

=> s hasegawa n?/au
L25       2635 HASEGAWA N?/AU

=> s l25 and periodon?
L26         27 L25 AND PERIODON?

=> s l26 and neurotroph?
L27          8 L26 AND NEUROTROPH?

=> dup rem l27
PROCESSING COMPLETED FOR L27
L28          3 DUP REM L27 (5 DUPLICATES REMOVED)

=> shinohara h?/au
SHINOHARA IS NOT A RECOGNIZED COMMAND
The previous command name entered was not recognized by the system.
For a list of commands available to you in the current file, enter
"HELP COMMANDS" at an arrow prompt (=>).

=> s shinohara h?/au
L29       3603 SHINOHARA H?/AU
```

```
=> s 129 and periodon?
L30          24 L29 AND PERIODON?

=> s 130 and neurotroph?
L31           5 L30 AND NEUROTROPH?

=> dup rem l31
PROCESSING COMPLETED FOR L31
L32           2 DUP REM L31 (3 DUPLICATES REMOVED)

=> dis his

     (FILE 'HOME' ENTERED AT 10:09:16 ON 10 JUN 2009)

     FILE 'MEDLINE, BIOSIS, CAPLUS, EMBASE' ENTERED AT 10:09:42 ON 10 JUN 2009
L1         3876 S KURIHARA H?/AU
L2          290 S L1 AND PERIODON?
L3           16 S L2 AND NEUROTROPH?
L4            5 DUP REM L3 (11 DUPLICATES REMOVED)
L5         5694 S KAWAGUCHI H?/AU
L6           78 S L5 AND PERIODON?
L7           12 S L6 AND NEUROTROPH?
L8            4 DUP REM L7 (8 DUPLICATES REMOVED)
L9        14861 S TAKEDA K?/AU
L10          41 S L9 AND PERIODON?
L11          16 S L10 AND NEUROTROPH?
L12           5 DUP REM L11 (11 DUPLICATES REMOVED)
L13         818 S SHIBA H?/AU
L14         118 S L13 AND PERIODON?
L15          16 S L14 AND NEUROTROPH?
L16           5 DUP REM L15 (11 DUPLICATES REMOVED)
L17        3797 S MIZUNO N?/AU
L18          52 S L17 AND PERIODON?
L19          12 S L18 AND NEUROTROPH?
L20           4 DUP REM L19 (8 DUPLICATES REMOVED)
L21        3348 S YOSHINO H?/AU
L22          30 S L21 AND PERIODON?
L23           9 S L22 AND NEUROTROPH?
L24           3 DUP REM L23 (6 DUPLICATES REMOVED)
L25        2635 S HASEGAWA N?/AU
L26          27 S L25 AND PERIODON?
L27           8 S L26 AND NEUROTROPH?
L28           3 DUP REM L27 (5 DUPLICATES REMOVED)
L29        3603 S SHINOHARA H?/AU
L30          24 S L29 AND PERIODON?
L31           5 S L30 AND NEUROTROPH?
L32           2 DUP REM L31 (3 DUPLICATES REMOVED)

=> dis ibib abs l4 1-5

L4   ANSWER 1 OF 5     MEDLINE on STN                    DUPLICATE 1
ACCESSION NUMBER:   2008408883     MEDLINE
DOCUMENT NUMBER:    PubMed ID: 18390540
TITLE:              Brain-derived neurotrophic factor stimulates
                    bone/cementum-related protein gene expression in
                    cementoblasts.
AUTHOR:             Kajiya Mikihito; Shiba Hideki; Fujita Tsuyoshi; Ouhara
                    Kazuhisa; Takeda Katsuhiro; Mizuno Noriyoshi; Kawaguchi
                    Hiroyuki; Kitagawa Masae; Takata Takashi; Tsuji Koichiro;
                    Kurihara Hidemi
CORPORATE SOURCE:   Department of Periodontal Medicine, Hiroshima University
```

Graduate School of Biomedical Sciences, Minami-ku, Hiroshima 34-8553, Japan.
SOURCE: The Journal of biological chemistry, (2008 Jun 6) Vol. 283, No. 23, pp. 16259-67. Electronic Publication: 2008-04-03. Journal code: 2985121R. ISSN: 0021-9258.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE) (RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200807
ENTRY DATE: Entered STN: 27 Jun 2008
Last Updated on STN: 16 Jul 2008
Entered Medline: 15 Jul 2008

AB Brain-derived neurotrophic factor (BDNF), recognized as essential in the developing nervous system, is involved in differentiation and proliferation in non-neuronal cells, such as endothelial cells, osteoblasts, and periodontal ligament cells. We have focused on the application of BDNF to the regeneration of periodontal tissue and indicated that BDNF promotes the regeneration of experimentally created periodontal defects. Cementoblasts form cementum, mineralized tissue, which is key to establishing a functional periodontium. The application of BDNF to the regeneration of periodontal tissue requires elucidation of the mechanism by which BDNF regulates the functions of cementoblasts. In this study, we examined how BDNF regulates the mRNA expression of bone/cementum-related proteins (alkaline phosphatase (ALP), osteopontin (OPN), and bone morphogenetic protein-2 (BMP-2)) in cultures of immortalized human cementoblast-like (HCEM) cells. BDNF elevated the mRNA levels of ALP, OPN, and BMP-2 in HCEM cells. Small interfering RNA (siRNA) for TRKB, a high affinity receptor of BDNF, siRNA for ELK-1, which is a downstream target of ERK1/2, and PD98059, an ERK inhibitor, obviated the increase in the mRNA levels. BDNF increased the levels of phosphorylated ERK1/2 and Elk-1, and the blocking of BDNF signaling by treatment with siRNA for TRKB and PD98059 suppressed the phosphorylation of ERK1/2 and Elk-1. Furthermore, BDNF increased the levels of phosphorylated c-Raf, which activates the ERK signaling pathway. These findings provide the first evidence that the TrkB-c-Raf-ERK1/2-Elk-1 signaling pathway is required for the BDNF-induced mRNA expression of ALP, OPN, and BMP-2 in HCEM cells.

L4 ANSWER 2 OF 5 MEDLINE on STN DUPLICATE 2
ACCESSION NUMBER: 2008714203 MEDLINE
DOCUMENT NUMBER: PubMed ID: 18980528
TITLE: Effect of neurotrophin-4/5 on bone/cementum-related protein expressions and DNA synthesis in cultures of human periodontal ligament cells.
AUTHOR: Mizuno Noriyoshi; Shiba Hideki; Inui Takafumi; Takeda Katsuhiro; Kajiya Mikihito; Hasegawa Naohiko; Kawaguchi Hiroyuki; Kurihara Hidemi
CORPORATE SOURCE: Department of Periodontal Medicine, Hiroshima University Graduate School of Biomedical Sciences, Hiroshima, Japan.. mizuno@hiroshima-u.ac.jp
SOURCE: Journal of periodontology, (2008 Nov) Vol. 79, No. 11, pp. 2182-9. Journal code: 8000345. ISSN: 0022-3492.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE) (RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Dental Journals; Priority Journals
ENTRY MONTH: 200902
ENTRY DATE: Entered STN: 5 Nov 2008

Last Updated on STN: 15 Feb 2009
Entered Medline: 12 Feb 2009

AB BACKGROUND: We studied neurotrophins (NTs) as signaling molecules for periodontal tissue regeneration and showed that nerve growth factor (NGF) and brain-derived neurotrophic factor (BDNF) modulate the proliferation and differentiation of human periodontal ligament (HPL) cells in vitro. The purpose of this study was to investigate whether NT-4/5 also has the ability to regulate the function of HPL cells. METHODS: mRNA expressions of NT-4/5 and its high-affinity tyrosine kinase receptor (trk)B were analyzed in HPL cells by reverse transcription-polymerase chain reaction. We examined how NT-4/5 regulates the mRNA expression of bone/cementum-related proteins (alkaline phosphatase [ALPase], osteopontin [OPN], osteocalcin [OC], and bone morphogenetic protein [BMP]-2) in cultures of HPL cells. Moreover, the effects of NT-4/5 on calcification, the production of OPN and OC, and DNA synthesis in HPL cells were examined. RESULTS: NT-4/5 and trkB mRNA were expressed in HPL cells. NT-4/5 elevated the mRNA levels of ALPase, OPN, OC, and BMP-2 and the syntheses of OPN, OC, and DNA in HPL cells. PD98059, an extracellular signal-regulated kinase (ERK) inhibitor, obviated the increase in the mRNA levels of ALPase, OPN, OC, and BMP-2. NT-4/5 increased the levels of phosphorylated ERK1/2. Furthermore, NT-4/5 enhanced the amount of mineral deposits in cultures of HPL cells. CONCLUSION: NT-4/5, as well as BDNF and NGF, is suggested to play a role in the regulation of function of periodontal ligament cells.

L4 ANSWER 3 OF 5 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2005:259902 CAPLUS
DOCUMENT NUMBER: 142:303690
TITLE: Remedy and therapeutic method for periodontal diseases and pulpal diseases with neurotrophic factors
INVENTOR(S): Kurihara, Hidemi; Kawaguchi, Hiroyuki; Takeda, Katsuhiro; Shiba, Hideki; Mizuno, Noriyoshi; Yoshino, Hiroshi; Hasegawa, Naohiko; Shinohara, Hiroaki
PATENT ASSIGNEE(S): Two Cells Co. Ltd., Japan
SOURCE: PCT Int. Appl., 86 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005025605	A1	20050324	WO 2004-JP13023	20040908
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2004271843	A1	20050324	AU 2004-271843	20040908
EP 1671641	A1	20060621	EP 2004-787706	20040908
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK				
CN 1871024	A	20061129	CN 2004-80031194	20040908

RU 2336089	C2	20081020	RU 2006-111465		20040908
US 20070071693	A1	20070329	US 2006-571069		20061207
PRIORITY APPLN. INFO.:			JP 2003-316719	A	20030909
			WO 2004-JP13023	W	20040908

AB It is intended to provide a remedy and a therapeutic method for periodontal diseases and pulpal diseases, a transplantation material for regenerating a periodontal tissue and a method of regenerating a periodontal tissue. Namely, a remedy for periodontal diseases and pulpal diseases comprising a neurotrophic factor as the active ingredient. The effect of brain-derived neurotrophic factor (BDNF) on cultured human periodontal ligament cell and human gingival keratinocyte was examined

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 4 OF 5 MEDLINE on STN DUPLICATE 3

ACCESSION NUMBER:	2005583578 MEDLINE
DOCUMENT NUMBER:	PubMed ID: 16259615
TITLE:	Brain-derived neurotrophic factor enhances periodontal tissue regeneration.
AUTHOR:	Takeda Katsuhiro; Shiba Hideki; Mizuno Noriyoshi; Hasegawa Naohiko; Mouri Yoshihiro; Hirachi Akio; Yoshino Hiroshi; Kawaguchi Hiroyuki; Kurihara Hidemi
CORPORATE SOURCE:	Department of Periodontal Medicine, Division of Frontier Medical Science, Hiroshima University Graduate School of Biomedical Sciences, Hiroshima, Japan.
SOURCE:	Tissue engineering, (2005 Sep-Oct) Vol. 11, No. 9-10, pp. 1618-29. Journal code: 9505538. ISSN: 1076-3279.
PUB. COUNTRY:	United States
DOCUMENT TYPE:	(COMPARATIVE STUDY) Journal; Article; (JOURNAL ARTICLE) (RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE:	English
FILE SEGMENT:	Priority Journals
ENTRY MONTH:	200512
ENTRY DATE:	Entered STN: 3 Nov 2005 Last Updated on STN: 23 Dec 2005 Entered Medline: 22 Dec 2005

AB To address whether brain-derived neurotrophic factor (BDNF) could be involved in periodontal tissue regeneration, we examined the effects of BDNF on proliferation and the expression of bone (cementum)- related proteins (osteopontin, bone morphogenetic protein [BMP]-2, type I collagen, alkaline phosphatase [ALPase], and osteocalcin) in cultures of human periodontal ligament (HPL) cells, which are thought to be prerequisite for periodontal tissue regeneration, and on proliferation and angiogenesis in human endothelial cells. Furthermore, we examined the effect of BDNF on the regeneration of periodontal tissues in experimentally induced periodontal defects in dogs. BDNF elevated the expression of ALPase and osteocalcin mRNAs and increased the synthesis of osteopontin, BMP-2, and type I collagen DNA in HPL cells. BDNF stimulated mRNA expression of vascular endothelial growth factor-B and tenascin-X, and proliferation and angiogenesis in human endothelial cells. In vivo studies showed that BDNF stimulated the formation of new alveolar bone cementum and connective new fibers, which were inserted into the newly formed cementum and bone. BDNF also stimulated blood capillary formation. These findings suggest that the regulation of functioning of periodontal ligament cells and endothelial cells by BDNF results in the promotion of periodontal tissue regeneration.

L4 ANSWER 5 OF 5 MEDLINE on STN DUPLICATE 4
ACCESSION NUMBER: 2003081727 MEDLINE
DOCUMENT NUMBER: PubMed ID: 12593600
TITLE: Neurotrophins in cultured cells from periodontal tissues.
AUTHOR: Kurihara Hidemi; Shinohara Hiroaki; Yoshino Hiroshi; Takeda Katsuhiro; Shiba Hideki
CORPORATE SOURCE: Department of Periodontal Medicine, Division of Frontier Medical Science, Hiroshima University Graduate School of Biomedical Science, Hiroshima, Japan.. hkuri@hiroshima-u.ac.jp
SOURCE: Journal of periodontology, (2003 Jan) Vol. 74, No. 1, pp. 76-84. Ref: 67
Journal code: 8000345. ISSN: 0022-3492.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
General Review; (REVIEW)
LANGUAGE: English
FILE SEGMENT: Dental Journals; Priority Journals
ENTRY MONTH: 200305
ENTRY DATE: Entered STN: 21 Feb 2003
Last Updated on STN: 8 May 2003
Entered Medline: 7 May 2003

AB We review the basic functions of neurotrophins and their receptors and discuss the expression and functions of neurotrophins and their specific receptors based on recent data using cultured cells from human periodontal tissues. Neurotrophins, nerve growth factor (NGF), brain-derived neurotrophic factor (BDNF), and neurotrophin-3 (NT-3) play crucial roles in the differentiation and survival of neural cells. Neurotrophins activate 2 different receptor classes: the tropomyosin-related kinase (Trk) family of receptor tyrosine kinases (TrkA, TrkB, and TrkC) and the p75 receptor, a member of the tumor necrosis factor receptor superfamily. Neurotrophins regulate both cell death and cell survival through activations of Trk receptors and/or p75 neurotrophin receptor. It has been reported that neurotrophins are also produced from non-neuronal cells, such as leukocytes, osteoblasts, or fibroblasts, and act in many other ways on non-neuronal cells. Neurotrophin expression during bone fracture healing is especially interesting, and neurotrophins are now implicated in hard tissue regeneration. It is well known that neurotrophins and their receptors are expressed in tooth development. Recent studies have found that neurotrophins and Trk receptors are expressed in mouse osteoblastic cell lines. Human periodontal ligament cells, human gingival fibroblasts, and human gingival keratinocytes expressed mRNA for NGF and TrkA. The secretion of bioactive NGF peptides from human periodontal ligament cells and human gingival keratinocytes was confirmed by bioassay using PC12 cells (rat adrenal pheochromocytoma cells). The expression of NGF and TrkA.mRNA was regulated by interleukin (IL)-1beta. NGF increased DNA synthesis and expressions of mRNA for bone-related proteins, alkaline phosphatase, and osteopontin in human periodontal ligament cells. Neurotrophins and Trk receptors expressed in human periodontal tissue may contribute to regeneration as well as innervation of periodontal tissue through local autocrine and paracrine pathways. Recent data suggest that some functions of neurotrophins and Trk receptors relate to periodontal disease and periodontal tissue regeneration. However, in vivo studies will be required to clarify the roles of neurotrophins and their receptors, including p75, in periodontal disease and periodontal tissue regeneration.

```
=> FIL STNGUIDE
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                    72.56      72.78

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)          SINCE FILE      TOTAL
                                                       ENTRY    SESSION
CA SUBSCRIBER PRICE                                    -0.82      -0.82

FILE 'STNGUIDE' ENTERED AT 10:18:31 ON 10 JUN 2009
USE IS SUBJECT TO THE TERMS OF YOUR CUSTOMER AGREEMENT
COPYRIGHT (C) 2009 AMERICAN CHEMICAL SOCIETY (ACS)

FILE CONTAINS CURRENT INFORMATION.
LAST RELOADED: Jun  5, 2009 (20090605/UP).

=> dis ibib abs l8 1-4
YOU HAVE REQUESTED DATA FROM FILE 'MEDLINE, CAPLUS' - CONTINUE? (Y)/N:y



L8   ANSWER 1 OF 4     MEDLINE on STN                    DUPLICATE 1
ACCESSION NUMBER:   2008408883     MEDLINE
DOCUMENT NUMBER:    PubMed ID: 18390540
TITLE:              Brain-derived neurotrophic factor stimulates
                    bone/cementum-related protein gene expression in
                    cementoblasts.
AUTHOR:             Kajiya Mikihito; Shiba Hideki; Fujita Tsuyoshi; Ouhara
                    Kazuhisa; Takeda Katsuhiro; Mizuno Noriyoshi;
                    Kawaguchi Hiroyuki; Kitagawa Masae; Takata Takashi;
                    Tsuji Koichiro; Kurihara Hidemi
CORPORATE SOURCE:   Department of Periodontal Medicine, Hiroshima University
                    Graduate School of Biomedical Sciences, Minami-ku,
                    Hiroshima 34-8553, Japan.
SOURCE:             The Journal of biological chemistry, (2008 Jun 6) Vol. 283,
                    No. 23, pp. 16259-67.  Electronic Publication: 2008-04-03.
                    Journal code: 2985121R. ISSN: 0021-9258.
PUB. COUNTRY:       United States
DOCUMENT TYPE:      Journal; Article; (JOURNAL ARTICLE)
                    (RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE:           English
FILE SEGMENT:       Priority Journals
ENTRY MONTH:        200807
ENTRY DATE:         Entered STN: 27 Jun 2008
                    Last Updated on STN: 16 Jul 2008
                    Entered Medline: 15 Jul 2008
AB   Brain-derived neurotrophic factor (BDNF), recognized as
     essential in the developing nervous system, is involved in differentiation
     and proliferation in non-neuronal cells, such as endothelial cells,
     osteoblasts, and periodontal ligament cells.  We have focused on
     the application of BDNF to the regeneration of periodontal
     tissue and indicated that BDNF promotes the regeneration of experimentally
     created periodontal defects.  Cementoblasts form cementum,
     mineralized tissue, which is key to establishing a functional
     periodontium.  The application of BDNF to the regeneration of
     periodontal tissue requires elucidation of the mechanism by which
     BDNF regulates the functions of cementoblasts.  In this study, we examined
     how BDNF regulates the mRNA expression of bone/cementum-related proteins
     (alkaline phosphatase (ALP), osteopontin (OPN), and bone morphogenetic
```

protein-2 (BMP-2)) in cultures of immortalized human cementoblast-like (HCEM) cells. BDNF elevated the mRNA levels of ALP, OPN, and BMP-2 in HCEM cells. Small interfering RNA (siRNA) for TRKB, a high affinity receptor of BDNF, siRNA for ELK-1, which is a downstream target of ERK1/2, and PD98059, an ERK inhibitor, obviated the increase in the mRNA levels. BDNF increased the levels of phosphorylated ERK1/2 and Elk-1, and the blocking of BDNF signaling by treatment with siRNA for TRKB and PD98059 suppressed the phosphorylation of ERK1/2 and Elk-1. Furthermore, BDNF increased the levels of phosphorylated c-Raf, which activates the ERK signaling pathway. These findings provide the first evidence that the TrkB-c-Raf-ERK1/2-Elk-1 signaling pathway is required for the BDNF-induced mRNA expression of ALP, OPN, and BMP-2 in HCEM cells.

L8 ANSWER 2 OF 4 MEDLINE on STN DUPLICATE 2
ACCESSION NUMBER: 2008714203 MEDLINE
DOCUMENT NUMBER: PubMed ID: 18980528
TITLE: Effect of neurotrophin-4/5 on bone/cementum-related protein expressions and DNA synthesis in cultures of human periodontal ligament cells.
AUTHOR: Mizuno Noriyoshi; Shiba Hideki; Inui Takafumi; Takeda Katsuhiro; Kajiya Mikihito; Hasegawa Naohiko; Kawaguchi Hiroyuki; Kurihara Hidemi
CORPORATE SOURCE: Department of Periodontal Medicine, Hiroshima University Graduate School of Biomedical Sciences, Hiroshima, Japan.. mizuno@hiroshima-u.ac.jp
SOURCE: Journal of periodontology, (2008 Nov) Vol. 79, No. 11, pp. 2182-9.
Journal code: 8000345. ISSN: 0022-3492.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Dental Journals; Priority Journals
ENTRY MONTH: 200902
ENTRY DATE: Entered STN: 5 Nov 2008
Last Updated on STN: 15 Feb 2009
Entered Medline: 12 Feb 2009

AB BACKGROUND: We studied neurotrophins (NTs) as signaling molecules for periodontal tissue regeneration and showed that nerve growth factor (NGF) and brain-derived neurotrophic factor (BDNF) modulate the proliferation and differentiation of human periodontal ligament (HPL) cells in vitro. The purpose of this study was to investigate whether NT-4/5 also has the ability to regulate the function of HPL cells. METHODS: mRNA expressions of NT-4/5 and its high-affinity tyrosine kinase receptor (trk)B were analyzed in HPL cells by reverse transcription-polymerase chain reaction. We examined how NT-4/5 regulates the mRNA expression of bone/cementum-related proteins (alkaline phosphatase [ALPase], osteopontin [OPN], osteocalcin [OC], and bone morphogenetic protein [BMP]-2) in cultures of HPL cells. Moreover, the effects of NT-4/5 on calcification, the production of OPN and OC, and DNA synthesis in HPL cells were examined. RESULTS: NT-4/5 and trkB mRNA were expressed in HPL cells. NT-4/5 elevated the mRNA levels of ALPase, OPN, OC, and BMP-2 and the syntheses of OPN, OC, and DNA in HPL cells. PD98059, an extracellular signal-regulated kinase (ERK) inhibitor, obviated the increase in the mRNA levels of ALPase, OPN, OC, and BMP-2. NT-4/5 increased the levels of phosphorylated ERK1/2. Furthermore, NT-4/5 enhanced the amount of mineral deposits in cultures of HPL cells. CONCLUSION: NT-4/5, as well as BDNF and NGF, is suggested to play a role in the regulation of function of periodontal ligament cells.

L8 ANSWER 3 OF 4 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2005:259902 CAPLUS

DOCUMENT NUMBER: 142:303690
TITLE: Remedy and therapeutic method for periodontal diseases and pulpal diseases with neurotrophic factors
INVENTOR(S): Kurihara, Hidemi; Kawaguchi, Hiroyuki; Takeda, Katsuhiro; Shiba, Hideki; Mizuno, Noriyoshi; Yoshino, Hiroshi; Hasegawa, Naohiko; Shinohara, Hiroaki
PATENT ASSIGNEE(S): Two Cells Co. Ltd., Japan
SOURCE: PCT Int. Appl., 86 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005025605	A1	20050324	WO 2004-JP13023	20040908
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2004271843	A1	20050324	AU 2004-271843	20040908
EP 1671641	A1	20060621	EP 2004-787706	20040908
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK				
CN 1871024	A	20061129	CN 2004-80031194	20040908
RU 2336089	C2	20081020	RU 2006-111465	20040908
US 20070071693	A1	20070329	US 2006-571069	20061207
PRIORITY APPLN. INFO.:			JP 2003-316719 A	20030909
			WO 2004-JP13023 W	20040908

AB It is intended to provide a remedy and a therapeutic method for periodontal diseases and pulpal diseases, a transplantation material for regenerating a periodontal tissue and a method of regenerating a periodontal tissue. Namely, a remedy for periodontal diseases and pulpal diseases comprising a neurotrophic factor as the active ingredient. The effect of brain-derived neurotrophic factor (BDNF) on cultured human periodontal ligament cell and human gingival keratinocyte was examined

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 4 OF 4 MEDLINE on STN DUPLICATE 3
ACCESSION NUMBER: 2005583578 MEDLINE
DOCUMENT NUMBER: PubMed ID: 16259615
TITLE: Brain-derived neurotrophic factor enhances periodontal tissue regeneration.
AUTHOR: Takeda Katsuhiro; Shiba Hideki; Mizuno Noriyoshi; Hasegawa Naohiko; Mouri Yoshihiro; Hirachi Akio; Yoshino Hiroshi; Kawaguchi Hiroyuki; Kurihara Hidemi
CORPORATE SOURCE: Department of Periodontal Medicine, Division of Frontier Medical Science, Hiroshima University Graduate School of Biomedical Sciences, Hiroshima, Japan.

SOURCE: Tissue engineering, (2005 Sep-Oct) Vol. 11, No. 9-10, pp. 1618-29.
Journal code: 9505538. ISSN: 1076-3279.
PUB. COUNTRY: United States
DOCUMENT TYPE: (COMPARATIVE STUDY)
Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200512
ENTRY DATE: Entered STN: 3 Nov 2005
Last Updated on STN: 23 Dec 2005
Entered Medline: 22 Dec 2005

AB To address whether brain-derived neurotrophic factor (BDNF) could be involved in periodontal tissue regeneration, we examined the effects of BDNF on proliferation and the expression of bone (cementum)- related proteins (osteopontin, bone morphogenetic protein [BMP]-2, type I collagen, alkaline phosphatase [ALPase], and osteocalcin) in cultures of human periodontal ligament (HPL) cells, which are thought to be prerequisite for periodontal tissue regeneration, and on proliferation and angiogenesis in human endothelial cells. Furthermore, we examined the effect of BDNF on the regeneration of periodontal tissues in experimentally induced periodontal defects in dogs. BDNF elevated the expression of ALPase and osteocalcin mRNAs and increased the synthesis of osteopontin, BMP-2, and type I collagen DNA in HPL cells. BDNF stimulated mRNA expression of vascular endothelial growth factor-B and tenascin-X, and proliferation and angiogenesis in human endothelial cells. In vivo studies showed that BDNF stimulated the formation of new alveolar bone cementum and connective new fibers, which were inserted into the newly formed cementum and bone. BDNF also stimulated blood capillary formation. These findings suggest that the regulation of functioning of periodontal ligament cells and endothelial cells by BDNF results in the promotion of periodontal tissue regeneration.

=> dis ibib abs l12 1-5
YOU HAVE REQUESTED DATA FROM FILE 'MEDLINE, CAPLUS' - CONTINUE? (Y)/N:y

L12 ANSWER 1 OF 5 MEDLINE on STN DUPLICATE 1
ACCESSION NUMBER: 2008408883 MEDLINE
DOCUMENT NUMBER: PubMed ID: 18390540
TITLE: Brain-derived neurotrophic factor stimulates bone/cementum-related protein gene expression in cementoblasts.
AUTHOR: Kajiya Mikihito; Shiba Hideki; Fujita Tsuyoshi; Ouhara Kazuhisa; Takeda Katsuhiro; Mizuno Noriyoshi; Kawaguchi Hiroyuki; Kitagawa Masae; Takata Takashi; Tsuji Koichiro; Kurihara Hidemi
CORPORATE SOURCE: Department of Periodontal Medicine, Hiroshima University Graduate School of Biomedical Sciences, Minami-ku, Hiroshima 34-8553, Japan.
SOURCE: The Journal of biological chemistry, (2008 Jun 6) Vol. 283, No. 23, pp. 16259-67. Electronic Publication: 2008-04-03.
Journal code: 2985121R. ISSN: 0021-9258.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English

FILE SEGMENT: Priority Journals
ENTRY MONTH: 200807
ENTRY DATE: Entered STN: 27 Jun 2008
Last Updated on STN: 16 Jul 2008
Entered Medline: 15 Jul 2008

AB Brain-derived neurotrophic factor (BDNF), recognized as essential in the developing nervous system, is involved in differentiation and proliferation in non-neuronal cells, such as endothelial cells, osteoblasts, and periodontal ligament cells. We have focused on the application of BDNF to the regeneration of periodontal tissue and indicated that BDNF promotes the regeneration of experimentally created periodontal defects. Cementoblasts form cementum, mineralized tissue, which is key to establishing a functional periodontium. The application of BDNF to the regeneration of periodontal tissue requires elucidation of the mechanism by which BDNF regulates the functions of cementoblasts. In this study, we examined how BDNF regulates the mRNA expression of bone/cementum-related proteins (alkaline phosphatase (ALP), osteopontin (OPN), and bone morphogenetic protein-2 (BMP-2)) in cultures of immortalized human cementoblast-like (HCEM) cells. BDNF elevated the mRNA levels of ALP, OPN, and BMP-2 in HCEM cells. Small interfering RNA (siRNA) for TRKB, a high affinity receptor of BDNF, siRNA for ELK-1, which is a downstream target of ERK1/2, and PD98059, an ERK inhibitor, obviated the increase in the mRNA levels. BDNF increased the levels of phosphorylated ERK1/2 and Elk-1, and the blocking of BDNF signaling by treatment with siRNA for TRKB and PD98059 suppressed the phosphorylation of ERK1/2 and Elk-1. Furthermore, BDNF increased the levels of phosphorylated c-Raf, which activates the ERK signaling pathway. These findings provide the first evidence that the TrkB-c-Raf-ERK1/2-Elk-1 signaling pathway is required for the BDNF-induced mRNA expression of ALP, OPN, and BMP-2 in HCEM cells.

L12 ANSWER 2 OF 5 MEDLINE on STN DUPLICATE 2
ACCESSION NUMBER: 2008714203 MEDLINE
DOCUMENT NUMBER: PubMed ID: 18980528
TITLE: Effect of neurotrophin-4/5 on bone/cementum-related protein expressions and DNA synthesis in cultures of human periodontal ligament cells.
AUTHOR: Mizuno Noriyoshi; Shiba Hideki; Inui Takafumi; Takeda Katsuhiro; Kajiya Mikihito; Hasegawa Naohiko; Kawaguchi Hiroyuki; Kurihara Hidemi
CORPORATE SOURCE: Department of Periodontal Medicine, Hiroshima University Graduate School of Biomedical Sciences, Hiroshima, Japan.. mizuno@hiroshima-u.ac.jp
SOURCE: Journal of periodontology, (2008 Nov) Vol. 79, No. 11, pp. 2182-9.
Journal code: 8000345. ISSN: 0022-3492.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Dental Journals; Priority Journals
ENTRY MONTH: 200902
ENTRY DATE: Entered STN: 5 Nov 2008
Last Updated on STN: 15 Feb 2009
Entered Medline: 12 Feb 2009

AB BACKGROUND: We studied neurotrophins (NTs) as signaling molecules for periodontal tissue regeneration and showed that nerve growth factor (NGF) and brain-derived neurotrophic factor (BDNF) modulate the proliferation and differentiation of human periodontal ligament (HPL) cells in vitro. The purpose of this study was to investigate whether NT-4/5 also has the ability to regulate the function of HPL cells. METHODS: mRNA expressions of NT-4/5 and its

high-affinity tyrosine kinase receptor (trk)B were analyzed in HPL cells by reverse transcription-polymerase chain reaction. We examined how NT-4/5 regulates the mRNA expression of bone/cementum-related proteins (alkaline phosphatase [ALPase], osteopontin [OPN], osteocalcin [OC], and bone morphogenetic protein [BMP]-2) in cultures of HPL cells. Moreover, the effects of NT-4/5 on calcification, the production of OPN and OC, and DNA synthesis in HPL cells were examined. RESULTS: NT-4/5 and trkB mRNA were expressed in HPL cells. NT-4/5 elevated the mRNA levels of ALPase, OPN, OC, and BMP-2 and the syntheses of OPN, OC, and DNA in HPL cells. PD98059, an extracellular signal-regulated kinase (ERK) inhibitor, obviated the increase in the mRNA levels of ALPase, OPN, OC, and BMP-2. NT-4/5 increased the levels of phosphorylated ERK1/2. Furthermore, NT-4/5 enhanced the amount of mineral deposits in cultures of HPL cells. CONCLUSION: NT-4/5, as well as BDNF and NGF, is suggested to play a role in the regulation of function of periodontal ligament cells.

L12 ANSWER 3 OF 5 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2005:259902 CAPLUS
DOCUMENT NUMBER: 142:303690
TITLE: Remedy and therapeutic method for periodontal diseases and pulpal diseases with neurotrophic factors
INVENTOR(S): Kurihara, Hidemi; Kawaguchi, Hiroyuki; Takeda, Katsuhiro; Shiba, Hideki; Mizuno, Noriyoshi; Yoshino, Hiroshi; Hasegawa, Naohiko; Shinohara, Hiroaki
PATENT ASSIGNEE(S): Two Cells Co. Ltd., Japan
SOURCE: PCT Int. Appl., 86 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005025605	A1	20050324	WO 2004-JP13023	20040908
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2004271843	A1	20050324	AU 2004-271843	20040908
EP 1671641	A1	20060621	EP 2004-787706	20040908
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK				
CN 1871024	A	20061129	CN 2004-80031194	20040908
RU 2336089	C2	20081020	RU 2006-111465	20040908
US 20070071693	A1	20070329	US 2006-571069	20061207
PRIORITY APPLN. INFO.:			JP 2003-316719 A	20030909
			WO 2004-JP13023 W	20040908

AB It is intended to provide a remedy and a therapeutic method for periodontal diseases and pulpal diseases, a transplantation material for regenerating a periodontal tissue and a method of regenerating a periodontal tissue. Namely, a remedy for periodontal diseases and pulpal diseases comprising a

neurotrophic factor as the active ingredient. The effect of brain-derived neurotrophic factor (BDNF) on cultured human periodontal ligament cell and human gingival keratinocyte was examined

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 4 OF 5 MEDLINE on STN DUPLICATE 3
ACCESSION NUMBER: 2005583578 MEDLINE
DOCUMENT NUMBER: PubMed ID: 16259615
TITLE: Brain-derived neurotrophic factor enhances periodontal tissue regeneration.
AUTHOR: Takeda Katsuhiro; Shiba Hideki; Mizuno Noriyoshi; Hasegawa Naohiko; Mouri Yoshihiro; Hirachi Akio; Yoshino Hiroshi; Kawaguchi Hiroyuki; Kurihara Hidemi
CORPORATE SOURCE: Department of Periodontal Medicine, Division of Frontier Medical Science, Hiroshima University Graduate School of Biomedical Sciences, Hiroshima, Japan.
SOURCE: Tissue engineering, (2005 Sep-Oct) Vol. 11, No. 9-10, pp. 1618-29.
Journal code: 9505538. ISSN: 1076-3279.
PUB. COUNTRY: United States
DOCUMENT TYPE: (COMPARATIVE STUDY)
Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200512
ENTRY DATE: Entered STN: 3 Nov 2005
Last Updated on STN: 23 Dec 2005
Entered Medline: 22 Dec 2005

AB To address whether brain-derived neurotrophic factor (BDNF) could be involved in periodontal tissue regeneration, we examined the effects of BDNF on proliferation and the expression of bone (cementum)- related proteins (osteopontin, bone morphogenetic protein [BMP]-2, type I collagen, alkaline phosphatase [ALPase], and osteocalcin) in cultures of human periodontal ligament (HPL) cells, which are thought to be prerequisite for periodontal tissue regeneration, and on proliferation and angiogenesis in human endothelial cells. Furthermore, we examined the effect of BDNF on the regeneration of periodontal tissues in experimentally induced periodontal defects in dogs. BDNF elevated the expression of ALPase and osteocalcin mRNAs and increased the synthesis of osteopontin, BMP-2, and type I collagen DNA in HPL cells. BDNF stimulated mRNA expression of vascular endothelial growth factor-B and tenascin-X, and proliferation and angiogenesis in human endothelial cells. In vivo studies showed that BDNF stimulated the formation of new alveolar bone cementum and connective new fibers, which were inserted into the newly formed cementum and bone. BDNF also stimulated blood capillary formation. These findings suggest that the regulation of functioning of periodontal ligament cells and endothelial cells by BDNF results in the promotion of periodontal tissue regeneration.

L12 ANSWER 5 OF 5 MEDLINE on STN DUPLICATE 4
ACCESSION NUMBER: 2003081727 MEDLINE
DOCUMENT NUMBER: PubMed ID: 12593600
TITLE: Neurotrophins in cultured cells from periodontal tissues.
AUTHOR: Kurihara Hidemi; Shinohara Hiroaki; Yoshino Hiroshi; Takeda Katsuhiro; Shiba Hideki
CORPORATE SOURCE: Department of Periodontal Medicine, Division of Frontier Medical Science, Hiroshima University Graduate School of

Biomedical Science, Hiroshima, Japan..
hkuri@hiroshima-u.ac.jp
SOURCE: Journal of periodontology, (2003 Jan) Vol. 74, No. 1, pp. 76-84. Ref: 67
Journal code: 8000345. ISSN: 0022-3492.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
General Review; (REVIEW)
LANGUAGE: English
FILE SEGMENT: Dental Journals; Priority Journals
ENTRY MONTH: 200305
ENTRY DATE: Entered STN: 21 Feb 2003
Last Updated on STN: 8 May 2003
Entered Medline: 7 May 2003
AB We review the basic functions of neurotrophins and their receptors and discuss the expression and functions of neurotrophins and their specific receptors based on recent data using cultured cells from human periodontal tissues. Neurotrophins, nerve growth factor (NGF), brain-derived neurotrophic factor (BDNF), and neurotrophin-3 (NT-3) play crucial roles in the differentiation and survival of neural cells. Neurotrophins activate 2 different receptor classes: the tropomyosin-related kinase (Trk) family of receptor tyrosine kinases (TrkA, TrkB, and TrkC) and the p75 receptor, a member of the tumor necrosis factor receptor superfamily. Neurotrophins regulate both cell death and cell survival through activations of Trk receptors and/or p75 neurotrophin receptor. It has been reported that neurotrophins are also produced from non-neuronal cells, such as leukocytes, osteoblasts, or fibroblasts, and act in many other ways on non-neuronal cells. Neurotrophin expression during bone fracture healing is especially interesting, and neurotrophins are now implicated in hard tissue regeneration. It is well known that neurotrophins and their receptors are expressed in tooth development. Recent studies have found that neurotrophins and Trk receptors are expressed in mouse osteoblastic cell lines. Human periodontal ligament cells, human gingival fibroblasts, and human gingival keratinocytes expressed mRNA for NGF and TrkA. The secretion of bioactive NGF peptides from human periodontal ligament cells and human gingival keratinocytes was confirmed by bioassay using PC12 cells (rat adrenal pheochromocytoma cells). The expression of NGF and TrkA.mRNA was regulated by interleukin (IL)-1beta. NGF increased DNA synthesis and expressions of mRNA for bone-related proteins, alkaline phosphatase, and osteopontin in human periodontal ligament cells. Neurotrophins and Trk receptors expressed in human periodontal tissue may contribute to regeneration as well as innervation of periodontal tissue through local autocrine and paracrine pathways. Recent data suggest that some functions of neurotrophins and Trk receptors relate to periodontal disease and periodontal tissue regeneration. However, in vivo studies will be required to clarify the roles of neurotrophins and their receptors, including p75, in periodontal disease and periodontal tissue regeneration.

=> dis ibib abs l16 1-5
YOU HAVE REQUESTED DATA FROM FILE 'MEDLINE, CAPLUS' - CONTINUE? (Y)/N:y

L16 ANSWER 1 OF 5 MEDLINE on STN DUPLICATE 1

ACCESSION NUMBER: 2008408883 MEDLINE
DOCUMENT NUMBER: PubMed ID: 18390540
TITLE: Brain-derived neurotrophic factor stimulates bone/cementum-related protein gene expression in cementoblasts.
AUTHOR: Kajiya Mikihito; Shiba Hideki; Fujita Tsuyoshi; Ouhara Kazuhisa; Takeda Katsuhiro; Mizuno Noriyoshi; Kawaguchi Hiroyuki; Kitagawa Masae; Takata Takashi; Tsuji Koichiro; Kurihara Hidemi
CORPORATE SOURCE: Department of Periodontal Medicine, Hiroshima University Graduate School of Biomedical Sciences, Minami-ku, Hiroshima 34-8553, Japan.
SOURCE: The Journal of biological chemistry, (2008 Jun 6) Vol. 283, No. 23, pp. 16259-67. Electronic Publication: 2008-04-03. Journal code: 2985121R. ISSN: 0021-9258.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE) (RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200807
ENTRY DATE: Entered STN: 27 Jun 2008
Last Updated on STN: 16 Jul 2008
Entered Medline: 15 Jul 2008

AB Brain-derived neurotrophic factor (BDNF), recognized as essential in the developing nervous system, is involved in differentiation and proliferation in non-neuronal cells, such as endothelial cells, osteoblasts, and periodontal ligament cells. We have focused on the application of BDNF to the regeneration of periodontal tissue and indicated that BDNF promotes the regeneration of experimentally created periodontal defects. Cementoblasts form cementum, mineralized tissue, which is key to establishing a functional periodontium. The application of BDNF to the regeneration of periodontal tissue requires elucidation of the mechanism by which BDNF regulates the functions of cementoblasts. In this study, we examined how BDNF regulates the mRNA expression of bone/cementum-related proteins (alkaline phosphatase (ALP), osteopontin (OPN), and bone morphogenetic protein-2 (BMP-2)) in cultures of immortalized human cementoblast-like (HCEM) cells. BDNF elevated the mRNA levels of ALP, OPN, and BMP-2 in HCEM cells. Small interfering RNA (siRNA) for TRKB, a high affinity receptor of BDNF, siRNA for ELK-1, which is a downstream target of ERK1/2, and PD98059, an ERK inhibitor, obviated the increase in the mRNA levels. BDNF increased the levels of phosphorylated ERK1/2 and Elk-1, and the blocking of BDNF signaling by treatment with siRNA for TRKB and PD98059 suppressed the phosphorylation of ERK1/2 and Elk-1. Furthermore, BDNF increased the levels of phosphorylated c-Raf, which activates the ERK signaling pathway. These findings provide the first evidence that the TrkB-c-Raf-ERK1/2-Elk-1 signaling pathway is required for the BDNF-induced mRNA expression of ALP, OPN, and BMP-2 in HCEM cells.

L16 ANSWER 2 OF 5 MEDLINE on STN DUPLICATE 2
ACCESSION NUMBER: 2008714203 MEDLINE
DOCUMENT NUMBER: PubMed ID: 18980528
TITLE: Effect of neurotrophin-4/5 on bone/cementum-related protein expressions and DNA synthesis in cultures of human periodontal ligament cells.
AUTHOR: Mizuno Noriyoshi; Shiba Hideki; Inui Takafumi; Takeda Katsuhiro; Kajiya Mikihito; Hasegawa Naohiko; Kawaguchi Hiroyuki; Kurihara Hidemi
CORPORATE SOURCE: Department of Periodontal Medicine, Hiroshima University Graduate School of Biomedical Sciences, Hiroshima, Japan.. mizuno@hiroshima-u.ac.jp

SOURCE: Journal of periodontology, (2008 Nov) Vol. 79, No. 11, pp. 2182-9.
Journal code: 8000345. ISSN: 0022-3492.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Dental Journals; Priority Journals
ENTRY MONTH: 200902
ENTRY DATE: Entered STN: 5 Nov 2008
Last Updated on STN: 15 Feb 2009
Entered Medline: 12 Feb 2009

AB BACKGROUND: We studied neurotrophins (NTs) as signaling molecules for periodontal tissue regeneration and showed that nerve growth factor (NGF) and brain-derived neurotrophic factor (BDNF) modulate the proliferation and differentiation of human periodontal ligament (HPL) cells in vitro. The purpose of this study was to investigate whether NT-4/5 also has the ability to regulate the function of HPL cells. METHODS: mRNA expressions of NT-4/5 and its high-affinity tyrosine kinase receptor (trk)B were analyzed in HPL cells by reverse transcription-polymerase chain reaction. We examined how NT-4/5 regulates the mRNA expression of bone/cementum-related proteins (alkaline phosphatase [ALPase], osteopontin [OPN], osteocalcin [OC], and bone morphogenetic protein [BMP]-2) in cultures of HPL cells. Moreover, the effects of NT-4/5 on calcification, the production of OPN and OC, and DNA synthesis in HPL cells were examined. RESULTS: NT-4/5 and trkB mRNA were expressed in HPL cells. NT-4/5 elevated the mRNA levels of ALPase, OPN, OC, and BMP-2 and the syntheses of OPN, OC, and DNA in HPL cells. PD98059, an extracellular signal-regulated kinase (ERK) inhibitor, obviated the increase in the mRNA levels of ALPase, OPN, OC, and BMP-2. NT-4/5 increased the levels of phosphorylated ERK1/2. Furthermore, NT-4/5 enhanced the amount of mineral deposits in cultures of HPL cells. CONCLUSION: NT-4/5, as well as BDNF and NGF, is suggested to play a role in the regulation of function of periodontal ligament cells.

L16 ANSWER 3 OF 5 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2005:259902 CAPLUS
DOCUMENT NUMBER: 142:303690
TITLE: Remedy and therapeutic method for periodontal diseases and pulpal diseases with neurotrophic factors
INVENTOR(S): Kurihara, Hidemi; Kawaguchi, Hiroyuki; Takeda, Katsuhiro; Shiba, Hideki; Mizuno, Noriyoshi; Yoshino, Hiroshi; Hasegawa, Naohiko; Shinohara, Hiroaki
PATENT ASSIGNEE(S): Two Cells Co. Ltd., Japan
SOURCE: PCT Int. Appl., 86 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005025605	A1	20050324	WO 2004-JP13023	20040908

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

AU 2004271843	A1	20050324	AU 2004-271843		20040908
EP 1671641	A1	20060621	EP 2004-787706		20040908
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK					
CN 1871024	A	20061129	CN 2004-80031194		20040908
RU 2336089	C2	20081020	RU 2006-111465		20040908
US 20070071693	A1	20070329	US 2006-571069		20061207
PRIORITY APPLN. INFO.:			JP 2003-316719	A	20030909
			WO 2004-JP13023	W	20040908

AB It is intended to provide a remedy and a therapeutic method for periodontal diseases and pulpal diseases, a transplantation material for regenerating a periodontal tissue and a method of regenerating a periodontal tissue. Namely, a remedy for periodontal diseases and pulpal diseases comprising a neurotrophic factor as the active ingredient. The effect of brain-derived neurotrophic factor (BDNF) on cultured human periodontal ligament cell and human gingival keratinocyte was examined

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 4 OF 5 MEDLINE on STN DUPLICATE 3

ACCESSION NUMBER:	2005583578 MEDLINE
DOCUMENT NUMBER:	PubMed ID: 16259615
TITLE:	Brain-derived neurotrophic factor enhances periodontal tissue regeneration.
AUTHOR:	Takeda Katsuhiro; Shiba Hideki; Mizuno Noriyoshi; Hasegawa Naohiko; Mouri Yoshihiro; Hirachi Akio; Yoshino Hiroshi; Kawaguchi Hiroyuki; Kurihara Hidemi
CORPORATE SOURCE:	Department of Periodontal Medicine, Division of Frontier Medical Science, Hiroshima University Graduate School of Biomedical Sciences, Hiroshima, Japan.
SOURCE:	Tissue engineering, (2005 Sep-Oct) Vol. 11, No. 9-10, pp. 1618-29. Journal code: 9505538. ISSN: 1076-3279.
PUB. COUNTRY:	United States
DOCUMENT TYPE:	(COMPARATIVE STUDY) Journal; Article; (JOURNAL ARTICLE) (RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE:	English
FILE SEGMENT:	Priority Journals
ENTRY MONTH:	200512
ENTRY DATE:	Entered STN: 3 Nov 2005 Last Updated on STN: 23 Dec 2005 Entered Medline: 22 Dec 2005

AB To address whether brain-derived neurotrophic factor (BDNF) could be involved in periodontal tissue regeneration, we examined the effects of BDNF on proliferation and the expression of bone (cementum)- related proteins (osteopontin, bone morphogenetic protein [BMP]-2, type I collagen, alkaline phosphatase [ALPase], and osteocalcin) in cultures of human periodontal ligament (HPL) cells, which are thought to be prerequisite for periodontal tissue regeneration, and on proliferation and angiogenesis in human endothelial cells. Furthermore, we examined the effect of BDNF on the regeneration of periodontal tissues in experimentally induced periodontal defects in dogs. BDNF elevated the expression of ALPase and osteocalcin mRNAs and increased the synthesis of osteopontin, BMP-2, and type I

collagen DNA in HPL cells. BDNF stimulated mRNA expression of vascular endothelial growth factor-B and tenascin-X, and proliferation and angiogenesis in human endothelial cells. In vivo studies showed that BDNF stimulated the formation of new alveolar bone cementum and connective new fibers, which were inserted into the newly formed cementum and bone. BDNF also stimulated blood capillary formation. These findings suggest that the regulation of functioning of periodontal ligament cells and endothelial cells by BDNF results in the promotion of periodontal tissue regeneration.

L16 ANSWER 5 OF 5 MEDLINE on STN DUPLICATE 4
ACCESSION NUMBER: 2003081727 MEDLINE
DOCUMENT NUMBER: PubMed ID: 12593600
TITLE: Neurotrophins in cultured cells from periodontal tissues.
AUTHOR: Kurihara Hidemi; Shinohara Hiroaki; Yoshino Hiroshi; Takeda Katsuhiro; Shiba Hideki
CORPORATE SOURCE: Department of Periodontal Medicine, Division of Frontier Medical Science, Hiroshima University Graduate School of Biomedical Science, Hiroshima, Japan.. hkuri@hiroshima-u.ac.jp
SOURCE: Journal of periodontology, (2003 Jan) Vol. 74, No. 1, pp. 76-84. Ref: 67
Journal code: 8000345. ISSN: 0022-3492.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
General Review; (REVIEW)
LANGUAGE: English
FILE SEGMENT: Dental Journals; Priority Journals
ENTRY MONTH: 200305
ENTRY DATE: Entered STN: 21 Feb 2003
Last Updated on STN: 8 May 2003
Entered Medline: 7 May 2003

AB We review the basic functions of neurotrophins and their receptors and discuss the expression and functions of neurotrophins and their specific receptors based on recent data using cultured cells from human periodontal tissues. Neurotrophins, nerve growth factor (NGF), brain-derived neurotrophic factor (BDNF), and neurotrophin-3 (NT-3) play crucial roles in the differentiation and survival of neural cells. Neurotrophins activate 2 different receptor classes: the tropomyosin-related kinase (Trk) family of receptor tyrosine kinases (TrkA, TrkB, and TrkC) and the p75 receptor, a member of the tumor necrosis factor receptor superfamily. Neurotrophins regulate both cell death and cell survival through activations of Trk receptors and/or p75 neurotrophin receptor. It has been reported that neurotrophins are also produced from non-neuronal cells, such as leukocytes, osteoblasts, or fibroblasts, and act in many other ways on non-neuronal cells. Neurotrophin expression during bone fracture healing is especially interesting, and neurotrophins are now implicated in hard tissue regeneration. It is well known that neurotrophins and their receptors are expressed in tooth development. Recent studies have found that neurotrophins and Trk receptors are expressed in mouse osteoblastic cell lines. Human periodontal ligament cells, human gingival fibroblasts, and human gingival keratinocytes expressed mRNA for NGF and TrkA. The secretion of bioactive NGF peptides from human periodontal ligament cells and human gingival keratinocytes was confirmed by bioassay using PC12 cells (rat adrenal pheochromocytoma cells). The expression of NGF and TrkA.mRNA was regulated by interleukin (IL)-1beta. NGF increased DNA synthesis and expressions of mRNA for bone-related proteins, alkaline phosphatase, and

osteopontin in human periodontal ligament cells. Neurotrophins and Trk receptors expressed in human periodontal tissue may contribute to regeneration as well as innervation of periodontal tissue through local autocrine and paracrine pathways. Recent data suggest that some functions of neurotrophins and Trk receptors relate to periodontal disease and periodontal tissue regeneration. However, in vivo studies will be required to clarify the roles of neurotrophins and their receptors, including p75, in periodontal disease and periodontal tissue regeneration.

=> dis ibib abs l20 1-4
YOU HAVE REQUESTED DATA FROM FILE 'MEDLINE, CAPLUS' - CONTINUE? (Y)/N:y

L20 ANSWER 1 OF 4 MEDLINE on STN DUPLICATE 1
ACCESSION NUMBER: 2008408883 MEDLINE
DOCUMENT NUMBER: PubMed ID: 18390540
TITLE: Brain-derived neurotrophic factor stimulates bone/cementum-related protein gene expression in cementoblasts.
AUTHOR: Kajiya Mikihito; Shiba Hideki; Fujita Tsuyoshi; Ouhara Kazuhisa; Takeda Katsuhiro; Mizuno Noriyoshi; Kawaguchi Hiroyuki; Kitagawa Masae; Takata Takashi; Tsuji Koichiro; Kurihara Hidemi
CORPORATE SOURCE: Department of Periodontal Medicine, Hiroshima University Graduate School of Biomedical Sciences, Minami-ku, Hiroshima 34-8553, Japan.
SOURCE: The Journal of biological chemistry, (2008 Jun 6) Vol. 283, No. 23, pp. 16259-67. Electronic Publication: 2008-04-03. Journal code: 2985121R. ISSN: 0021-9258.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE) (RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200807
ENTRY DATE: Entered STN: 27 Jun 2008
Last Updated on STN: 16 Jul 2008
Entered Medline: 15 Jul 2008

AB Brain-derived neurotrophic factor (BDNF), recognized as essential in the developing nervous system, is involved in differentiation and proliferation in non-neuronal cells, such as endothelial cells, osteoblasts, and periodontal ligament cells. We have focused on the application of BDNF to the regeneration of periodontal tissue and indicated that BDNF promotes the regeneration of experimentally created periodontal defects. Cementoblasts form cementum, mineralized tissue, which is key to establishing a functional periodontium. The application of BDNF to the regeneration of periodontal tissue requires elucidation of the mechanism by which BDNF regulates the functions of cementoblasts. In this study, we examined how BDNF regulates the mRNA expression of bone/cementum-related proteins (alkaline phosphatase (ALP), osteopontin (OPN), and bone morphogenetic protein-2 (BMP-2)) in cultures of immortalized human cementoblast-like (HCEM) cells. BDNF elevated the mRNA levels of ALP, OPN, and BMP-2 in HCEM cells. Small interfering RNA (siRNA) for TRKB, a high affinity receptor of BDNF, siRNA for ELK-1, which is a downstream target of ERK1/2, and PD98059, an ERK inhibitor, obviated the increase in the mRNA levels. BDNF increased the levels of phosphorylated ERK1/2 and Elk-1, and the

blocking of BDNF signaling by treatment with siRNA for TRKB and PD98059 suppressed the phosphorylation of ERK1/2 and Elk-1. Furthermore, BDNF increased the levels of phosphorylated c-Raf, which activates the ERK signaling pathway. These findings provide the first evidence that the TrkB-c-Raf-ERK1/2-Elk-1 signaling pathway is required for the BDNF-induced mRNA expression of ALP, OPN, and BMP-2 in HCEM cells.

L20 ANSWER 2 OF 4 MEDLINE on STN DUPLICATE 2
ACCESSION NUMBER: 2008714203 MEDLINE
DOCUMENT NUMBER: PubMed ID: 18980528
TITLE: Effect of neurotrophin-4/5 on bone/cementum-related protein expressions and DNA synthesis in cultures of human periodontal ligament cells.
AUTHOR: Mizuno Noriyoshi; Shiba Hideki; Inui Takafumi; Takeda Katsuhiro; Kajiya Mikihito; Hasegawa Naohiko; Kawaguchi Hiroyuki; Kurihara Hidemi
CORPORATE SOURCE: Department of Periodontal Medicine, Hiroshima University Graduate School of Biomedical Sciences, Hiroshima, Japan.. mizuno@hiroshima-u.ac.jp
SOURCE: Journal of periodontology, (2008 Nov) Vol. 79, No. 11, pp. 2182-9.
Journal code: 8000345. ISSN: 0022-3492.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Dental Journals; Priority Journals
ENTRY MONTH: 200902
ENTRY DATE: Entered STN: 5 Nov 2008
Last Updated on STN: 15 Feb 2009
Entered Medline: 12 Feb 2009
AB BACKGROUND: We studied neurotrophins (NTs) as signaling molecules for periodontal tissue regeneration and showed that nerve growth factor (NGF) and brain-derived neurotrophic factor (BDNF) modulate the proliferation and differentiation of human periodontal ligament (HPL) cells in vitro. The purpose of this study was to investigate whether NT-4/5 also has the ability to regulate the function of HPL cells. METHODS: mRNA expressions of NT-4/5 and its high-affinity tyrosine kinase receptor (trk)B were analyzed in HPL cells by reverse transcription-polymerase chain reaction. We examined how NT-4/5 regulates the mRNA expression of bone/cementum-related proteins (alkaline phosphatase [ALPase], osteopontin [OPN], osteocalcin [OC], and bone morphogenetic protein [BMP]-2) in cultures of HPL cells. Moreover, the effects of NT-4/5 on calcification, the production of OPN and OC, and DNA synthesis in HPL cells were examined. RESULTS: NT-4/5 and trkB mRNA were expressed in HPL cells. NT-4/5 elevated the mRNA levels of ALPase, OPN, OC, and BMP-2 and the syntheses of OPN, OC, and DNA in HPL cells. PD98059, an extracellular signal-regulated kinase (ERK) inhibitor, obviated the increase in the mRNA levels of ALPase, OPN, OC, and BMP-2. NT-4/5 increased the levels of phosphorylated ERK1/2. Furthermore, NT-4/5 enhanced the amount of mineral deposits in cultures of HPL cells. CONCLUSION: NT-4/5, as well as BDNF and NGF, is suggested to play a role in the regulation of function of periodontal ligament cells.

L20 ANSWER 3 OF 4 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2005:259902 CAPLUS
DOCUMENT NUMBER: 142:303690
TITLE: Remedy and therapeutic method for periodontal diseases and pulpal diseases with neurotrophic factors
INVENTOR(S): Kurihara, Hidemi; Kawaguchi, Hiroyuki; Takeda, Katsuhiro; Shiba, Hideki; Mizuno, Noriyoshi;

Yoshino, Hiroshi; Hasegawa, Naohiko; Shinohara, Hiroaki
PATENT ASSIGNEE(S): Two Cells Co. Ltd., Japan
SOURCE: PCT Int. Appl., 86 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005025605	A1	20050324	WO 2004-JP13023	20040908
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2004271843	A1	20050324	AU 2004-271843	20040908
EP 1671641	A1	20060621	EP 2004-787706	20040908
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK				
CN 1871024	A	20061129	CN 2004-80031194	20040908
RU 2336089	C2	20081020	RU 2006-111465	20040908
US 20070071693	A1	20070329	US 2006-571069	20061207

PRIORITY APPLN. INFO.: JP 2003-316719 A 20030909
WO 2004-JP13023 W 20040908

AB It is intended to provide a remedy and a therapeutic method for periodontal diseases and pulpal diseases, a transplantation material for regenerating a periodontal tissue and a method of regenerating a periodontal tissue. Namely, a remedy for periodontal diseases and pulpal diseases comprising a neurotrophic factor as the active ingredient. The effect of brain-derived neurotrophic factor (BDNF) on cultured human periodontal ligament cell and human gingival keratinocyte was examined

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 4 OF 4 MEDLINE on STN DUPLICATE 3
ACCESSION NUMBER: 2005583578 MEDLINE
DOCUMENT NUMBER: PubMed ID: 16259615
TITLE: Brain-derived neurotrophic factor enhances periodontal tissue regeneration.
AUTHOR: Takeda Katsuhiro; Shiba Hideki; Mizuno Noriyoshi; Hasegawa Naohiko; Mouri Yoshihiro; Hirachi Akio; Yoshino Hiroshi; Kawaguchi Hiroyuki; Kurihara Hidemi
CORPORATE SOURCE: Department of Periodontal Medicine, Division of Frontier Medical Science, Hiroshima University Graduate School of Biomedical Sciences, Hiroshima, Japan.
SOURCE: Tissue engineering, (2005 Sep-Oct) Vol. 11, No. 9-10, pp. 1618-29.
Journal code: 9505538. ISSN: 1076-3279.
PUB. COUNTRY: United States
DOCUMENT TYPE: (COMPARATIVE STUDY)
Journal; Article; (JOURNAL ARTICLE)

(RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200512
ENTRY DATE: Entered STN: 3 Nov 2005
Last Updated on STN: 23 Dec 2005
Entered Medline: 22 Dec 2005

AB To address whether brain-derived neurotrophic factor (BDNF) could be involved in periodontal tissue regeneration, we examined the effects of BDNF on proliferation and the expression of bone (cementum)- related proteins (osteopontin, bone morphogenetic protein [BMP]-2, type I collagen, alkaline phosphatase [ALPase], and osteocalcin) in cultures of human periodontal ligament (HPL) cells, which are thought to be prerequisite for periodontal tissue regeneration, and on proliferation and angiogenesis in human endothelial cells. Furthermore, we examined the effect of BDNF on the regeneration of periodontal tissues in experimentally induced periodontal defects in dogs. BDNF elevated the expression of ALPase and osteocalcin mRNAs and increased the synthesis of osteopontin, BMP-2, and type I collagen DNA in HPL cells. BDNF stimulated mRNA expression of vascular endothelial growth factor-B and tenascin-X, and proliferation and angiogenesis in human endothelial cells. In vivo studies showed that BDNF stimulated the formation of new alveolar bone cementum and connective new fibers, which were inserted into the newly formed cementum and bone. BDNF also stimulated blood capillary formation. These findings suggest that the regulation of functioning of periodontal ligament cells and endothelial cells by BDNF results in the promotion of periodontal tissue regeneration.

=> dis ibib abs l24 1-3
YOU HAVE REQUESTED DATA FROM FILE 'MEDLINE, CAPLUS' - CONTINUE? (Y)/N:y

L24 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2005:259902 CAPLUS
DOCUMENT NUMBER: 142:303690
TITLE: Remedy and therapeutic method for periodontal diseases and pulpal diseases with neurotrophic factors
INVENTOR(S): Kurihara, Hidemi; Kawaguchi, Hiroyuki; Takeda, Katsuhiro; Shiba, Hideki; Mizuno, Noriyoshi; Yoshino, Hiroshi; Hasegawa, Naohiko; Shinohara, Hiroaki
PATENT ASSIGNEE(S): Two Cells Co. Ltd., Japan
SOURCE: PCT Int. Appl., 86 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005025605	A1	20050324	WO 2004-JP13023	20040908
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY,				

TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

AU 2004271843	A1	20050324	AU 2004-271843		20040908
EP 1671641	A1	20060621	EP 2004-787706		20040908
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK					
CN 1871024	A	20061129	CN 2004-80031194		20040908
RU 2336089	C2	20081020	RU 2006-111465		20040908
US 20070071693	A1	20070329	US 2006-571069		20061207
PRIORITY APPLN. INFO.:			JP 2003-316719	A	20030909
			WO 2004-JP13023	W	20040908

AB It is intended to provide a remedy and a therapeutic method for periodontal diseases and pulpal diseases, a transplantation material for regenerating a periodontal tissue and a method of regenerating a periodontal tissue. Namely, a remedy for periodontal diseases and pulpal diseases comprising a neurotrophic factor as the active ingredient. The effect of brain-derived neurotrophic factor (BDNF) on cultured human periodontal ligament cell and human gingival keratinocyte was examined

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L24 ANSWER 2 OF 3 MEDLINE on STN DUPLICATE 1

ACCESSION NUMBER:	2005583578 MEDLINE
DOCUMENT NUMBER:	PubMed ID: 16259615
TITLE:	Brain-derived neurotrophic factor enhances periodontal tissue regeneration.
AUTHOR:	Takeda Katsuhiro; Shiba Hideki; Mizuno Noriyoshi; Hasegawa Naohiko; Mouri Yoshihiro; Hirachi Akio; Yoshino Hiroshi; Kawaguchi Hiroyuki; Kurihara Hidemi
CORPORATE SOURCE:	Department of Periodontal Medicine, Division of Frontier Medical Science, Hiroshima University Graduate School of Biomedical Sciences, Hiroshima, Japan.
SOURCE:	Tissue engineering, (2005 Sep-Oct) Vol. 11, No. 9-10, pp. 1618-29. Journal code: 9505538. ISSN: 1076-3279.
PUB. COUNTRY:	United States
DOCUMENT TYPE:	(COMPARATIVE STUDY) Journal; Article; (JOURNAL ARTICLE) (RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE:	English
FILE SEGMENT:	Priority Journals
ENTRY MONTH:	200512
ENTRY DATE:	Entered STN: 3 Nov 2005 Last Updated on STN: 23 Dec 2005 Entered Medline: 22 Dec 2005

AB To address whether brain-derived neurotrophic factor (BDNF) could be involved in periodontal tissue regeneration, we examined the effects of BDNF on proliferation and the expression of bone (cementum)- related proteins (osteopontin, bone morphogenetic protein [BMP]-2, type I collagen, alkaline phosphatase [ALPase], and osteocalcin) in cultures of human periodontal ligament (HPL) cells, which are thought to be prerequisite for periodontal tissue regeneration, and on proliferation and angiogenesis in human endothelial cells. Furthermore, we examined the effect of BDNF on the regeneration of periodontal tissues in experimentally induced periodontal defects in dogs. BDNF elevated the expression of ALPase and osteocalcin

mRNAs and increased the synthesis of osteopontin, BMP-2, and type I collagen DNA in HPL cells. BDNF stimulated mRNA expression of vascular endothelial growth factor-B and tenascin-X, and proliferation and angiogenesis in human endothelial cells. In vivo studies showed that BDNF stimulated the formation of new alveolar bone cementum and connective new fibers, which were inserted into the newly formed cementum and bone. BDNF also stimulated blood capillary formation. These findings suggest that the regulation of functioning of periodontal ligament cells and endothelial cells by BDNF results in the promotion of periodontal tissue regeneration.

L24 ANSWER 3 OF 3 MEDLINE on STN DUPLICATE 2
ACCESSION NUMBER: 2003081727 MEDLINE
DOCUMENT NUMBER: PubMed ID: 12593600
TITLE: Neurotrophins in cultured cells from periodontal tissues.
AUTHOR: Kurihara Hidemi; Shinohara Hiroaki; Yoshino Hiroshi ; Takeda Katsuhiro; Shiba Hideki
CORPORATE SOURCE: Department of Periodontal Medicine, Division of Frontier Medical Science, Hiroshima University Graduate School of Biomedical Science, Hiroshima, Japan.. hkuri@hiroshima-u.ac.jp
SOURCE: Journal of periodontology, (2003 Jan) Vol. 74, No. 1, pp. 76-84. Ref: 67
Journal code: 8000345. ISSN: 0022-3492.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
General Review; (REVIEW)
LANGUAGE: English
FILE SEGMENT: Dental Journals; Priority Journals
ENTRY MONTH: 200305
ENTRY DATE: Entered STN: 21 Feb 2003
Last Updated on STN: 8 May 2003
Entered Medline: 7 May 2003

AB We review the basic functions of neurotrophins and their receptors and discuss the expression and functions of neurotrophins and their specific receptors based on recent data using cultured cells from human periodontal tissues. Neurotrophins, nerve growth factor (NGF), brain-derived neurotrophic factor (BDNF), and neurotrophin-3 (NT-3) play crucial roles in the differentiation and survival of neural cells. Neurotrophins activate 2 different receptor classes: the tropomyosin-related kinase (Trk) family of receptor tyrosine kinases (TrkA, TrkB, and TrkC) and the p75 receptor, a member of the tumor necrosis factor receptor superfamily. Neurotrophins regulate both cell death and cell survival through activations of Trk receptors and/or p75 neurotrophin receptor. It has been reported that neurotrophins are also produced from non-neuronal cells, such as leukocytes, osteoblasts, or fibroblasts, and act in many other ways on non-neuronal cells. Neurotrophin expression during bone fracture healing is especially interesting, and neurotrophins are now implicated in hard tissue regeneration. It is well known that neurotrophins and their receptors are expressed in tooth development. Recent studies have found that neurotrophins and Trk receptors are expressed in mouse osteoblastic cell lines. Human periodontal ligament cells, human gingival fibroblasts, and human gingival keratinocytes expressed mRNA for NGF and TrkA. The secretion of bioactive NGF peptides from human periodontal ligament cells and human gingival keratinocytes was confirmed by bioassay using PC12 cells (rat adrenal pheochromocytoma cells). The expression of NGF and TrkA.mRNA was regulated by interleukin (IL)-1beta. NGF increased DNA synthesis and

expressions of mRNA for bone-related proteins, alkaline phosphatase, and osteopontin in human periodontal ligament cells. Neurotrophins and Trk receptors expressed in human periodontal tissue may contribute to regeneration as well as innervation of periodontal tissue through local autocrine and paracrine pathways. Recent data suggest that some functions of neurotrophins and Trk receptors relate to periodontal disease and periodontal tissue regeneration. However, in vivo studies will be required to clarify the roles of neurotrophins and their receptors, including p75, in periodontal disease and periodontal tissue regeneration.

=> dis ibib abs l28 1-3
YOU HAVE REQUESTED DATA FROM FILE 'MEDLINE, CAPLUS' - CONTINUE? (Y)/N:y

L28 ANSWER 1 OF 3 MEDLINE on STN DUPLICATE 1
ACCESSION NUMBER: 2008714203 MEDLINE
DOCUMENT NUMBER: PubMed ID: 18980528
TITLE: Effect of neurotrophin-4/5 on bone/cementum-related protein expressions and DNA synthesis in cultures of human periodontal ligament cells.
AUTHOR: Mizuno Noriyoshi; Shiba Hideki; Inui Takafumi; Takeda Katsuhiro; Kajiya Mikihito; Hasegawa Naohiko; Kawaguchi Hiroyuki; Kurihara Hidemi
CORPORATE SOURCE: Department of Periodontal Medicine, Hiroshima University Graduate School of Biomedical Sciences, Hiroshima, Japan.. mizuno@hiroshima-u.ac.jp
SOURCE: Journal of periodontology, (2008 Nov) Vol. 79, No. 11, pp. 2182-9.
Journal code: 8000345. ISSN: 0022-3492.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE) (RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Dental Journals; Priority Journals
ENTRY MONTH: 200902
ENTRY DATE: Entered STN: 5 Nov 2008
Last Updated on STN: 15 Feb 2009
Entered Medline: 12 Feb 2009

AB BACKGROUND: We studied neurotrophins (NTs) as signaling molecules for periodontal tissue regeneration and showed that nerve growth factor (NGF) and brain-derived neurotrophic factor (BDNF) modulate the proliferation and differentiation of human periodontal ligament (HPL) cells in vitro. The purpose of this study was to investigate whether NT-4/5 also has the ability to regulate the function of HPL cells. METHODS: mRNA expressions of NT-4/5 and its high-affinity tyrosine kinase receptor (trk)B were analyzed in HPL cells by reverse transcription-polymerase chain reaction. We examined how NT-4/5 regulates the mRNA expression of bone/cementum-related proteins (alkaline phosphatase [ALPase], osteopontin [OPN], osteocalcin [OC], and bone morphogenetic protein [BMP]-2) in cultures of HPL cells. Moreover, the effects of NT-4/5 on calcification, the production of OPN and OC, and DNA synthesis in HPL cells were examined. RESULTS: NT-4/5 and trkB mRNA were expressed in HPL cells. NT-4/5 elevated the mRNA levels of ALPase, OPN, OC, and BMP-2 and the syntheses of OPN, OC, and DNA in HPL cells. PD98059, an extracellular signal-regulated kinase (ERK) inhibitor, obviated the increase in the mRNA levels of ALPase, OPN, OC, and BMP-2. NT-4/5 increased the levels of phosphorylated ERK1/2. Furthermore, NT-4/5

enhanced the amount of mineral deposits in cultures of HPL cells. CONCLUSION: NT-4/5, as well as BDNF and NGF, is suggested to play a role in the regulation of function of periodontal ligament cells.

L28 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2005:259902 CAPLUS
DOCUMENT NUMBER: 142:303690
TITLE: Remedy and therapeutic method for periodontal diseases and pulpal diseases with neurotrophic factors
INVENTOR(S): Kurihara, Hidemi; Kawaguchi, Hiroyuki; Takeda, Katsuhiro; Shiba, Hideki; Mizuno, Noriyoshi; Yoshino, Hiroshi; Hasegawa, Naohiko; Shinohara, Hiroaki
PATENT ASSIGNEE(S): Two Cells Co. Ltd., Japan
SOURCE: PCT Int. Appl., 86 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005025605	A1	20050324	WO 2004-JP13023	20040908
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2004271843	A1	20050324	AU 2004-271843	20040908
EP 1671641	A1	20060621	EP 2004-787706	20040908
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK				
CN 1871024	A	20061129	CN 2004-80031194	20040908
RU 2336089	C2	20081020	RU 2006-111465	20040908
US 20070071693	A1	20070329	US 2006-571069	20061207

PRIORITY APPLN. INFO.: JP 2003-316719 A 20030909
WO 2004-JP13023 W 20040908

AB It is intended to provide a remedy and a therapeutic method for periodontal diseases and pulpal diseases, a transplantation material for regenerating a periodontal tissue and a method of regenerating a periodontal tissue. Namely, a remedy for periodontal diseases and pulpal diseases comprising a neurotrophic factor as the active ingredient. The effect of brain-derived neurotrophic factor (BDNF) on cultured human periodontal ligament cell and human gingival keratinocyte was examined

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L28 ANSWER 3 OF 3 MEDLINE on STN DUPLICATE 2
ACCESSION NUMBER: 2005583578 MEDLINE
DOCUMENT NUMBER: PubMed ID: 16259615
TITLE: Brain-derived neurotrophic factor enhances periodontal tissue regeneration.

AUTHOR: Takeda Katsuhiro; Shiba Hideki; Mizuno Noriyoshi; Hasegawa Naohiko; Mouri Yoshihiro; Hirachi Akio; Yoshino Hiroshi; Kawaguchi Hiroyuki; Kurihara Hidemi

CORPORATE SOURCE: Department of Periodontal Medicine, Division of Frontier Medical Science, Hiroshima University Graduate School of Biomedical Sciences, Hiroshima, Japan.

SOURCE: Tissue engineering, (2005 Sep-Oct) Vol. 11, No. 9-10, pp. 1618-29.
Journal code: 9505538. ISSN: 1076-3279.

PUB. COUNTRY: United States

DOCUMENT TYPE: (COMPARATIVE STUDY)
Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)

LANGUAGE: English

FILE SEGMENT: Priority Journals

ENTRY MONTH: 200512

ENTRY DATE: Entered STN: 3 Nov 2005
Last Updated on STN: 23 Dec 2005
Entered Medline: 22 Dec 2005

AB To address whether brain-derived neurotrophic factor (BDNF) could be involved in periodontal tissue regeneration, we examined the effects of BDNF on proliferation and the expression of bone (cementum)- related proteins (osteopontin, bone morphogenetic protein [BMP]-2, type I collagen, alkaline phosphatase [ALPase], and osteocalcin) in cultures of human periodontal ligament (HPL) cells, which are thought to be prerequisite for periodontal tissue regeneration, and on proliferation and angiogenesis in human endothelial cells. Furthermore, we examined the effect of BDNF on the regeneration of periodontal tissues in experimentally induced periodontal defects in dogs. BDNF elevated the expression of ALPase and osteocalcin mRNAs and increased the synthesis of osteopontin, BMP-2, and type I collagen DNA in HPL cells. BDNF stimulated mRNA expression of vascular endothelial growth factor-B and tenascin-X, and proliferation and angiogenesis in human endothelial cells. In vivo studies showed that BDNF stimulated the formation of new alveolar bone cementum and connective new fibers, which were inserted into the newly formed cementum and bone. BDNF also stimulated blood capillary formation. These findings suggest that the regulation of functioning of periodontal ligament cells and endothelial cells by BDNF results in the promotion of periodontal tissue regeneration.

=> dis ibib abs l32 1-2
YOU HAVE REQUESTED DATA FROM FILE 'MEDLINE, CAPLUS' - CONTINUE? (Y)/N:y

L32 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2005:259902 CAPLUS

DOCUMENT NUMBER: 142:303690

TITLE: Remedy and therapeutic method for periodontal diseases and pulpal diseases with neurotrophic factors

INVENTOR(S): Kurihara, Hidemi; Kawaguchi, Hiroyuki; Takeda, Katsuhiro; Shiba, Hideki; Mizuno, Noriyoshi; Yoshino, Hiroshi; Hasegawa, Naohiko; Shinohara, Hiroaki

PATENT ASSIGNEE(S): Two Cells Co. Ltd., Japan

SOURCE: PCT Int. Appl., 86 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005025605	A1	20050324	WO 2004-JP13023	20040908
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2004271843	A1	20050324	AU 2004-271843	20040908
EP 1671641	A1	20060621	EP 2004-787706	20040908
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK				
CN 1871024	A	20061129	CN 2004-80031194	20040908
RU 2336089	C2	20081020	RU 2006-111465	20040908
US 20070071693	A1	20070329	US 2006-571069	20061207
PRIORITY APPLN. INFO.:			JP 2003-316719 A	20030909
			WO 2004-JP13023 W	20040908

AB It is intended to provide a remedy and a therapeutic method for periodontal diseases and pulpal diseases, a transplantation material for regenerating a periodontal tissue and a method of regenerating a periodontal tissue. Namely, a remedy for periodontal diseases and pulpal diseases comprising a neurotrophic factor as the active ingredient. The effect of brain-derived neurotrophic factor (BDNF) on cultured human periodontal ligament cell and human gingival keratinocyte was examined

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L32 ANSWER 2 OF 2 MEDLINE on STN DUPLICATE 1

ACCESSION NUMBER: 2003081727 MEDLINE
DOCUMENT NUMBER: PubMed ID: 12593600
TITLE: Neurotrophins in cultured cells from periodontal tissues.
AUTHOR: Kurihara Hidemi; Shinohara Hiroaki; Yoshino Hiroshi; Takeda Katsuhiro; Shiba Hideki
CORPORATE SOURCE: Department of Periodontal Medicine, Division of Frontier Medical Science, Hiroshima University Graduate School of Biomedical Science, Hiroshima, Japan.. hkuri@hiroshima-u.ac.jp
SOURCE: Journal of periodontology, (2003 Jan) Vol. 74, No. 1, pp. 76-84. Ref: 67
Journal code: 8000345. ISSN: 0022-3492.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
General Review; (REVIEW)
LANGUAGE: English
FILE SEGMENT: Dental Journals; Priority Journals
ENTRY MONTH: 200305
ENTRY DATE: Entered STN: 21 Feb 2003
Last Updated on STN: 8 May 2003
Entered Medline: 7 May 2003

AB We review the basic functions of neurotrophins and their receptors and discuss the expression and functions of neurotrophins and their specific receptors based on recent data using cultured cells from human periodontal tissues. Neurotrophins, nerve growth factor (NGF), brain-derived neurotrophic factor (BDNF), and neurotrophin-3 (NT-3) play crucial roles in the differentiation and survival of neural cells. Neurotrophins activate 2 different receptor classes: the tropomyosin-related kinase (Trk) family of receptor tyrosine kinases (TrkA, TrkB, and TrkC) and the p75 receptor, a member of the tumor necrosis factor receptor superfamily. Neurotrophins regulate both cell death and cell survival through activations of Trk receptors and/or p75 neurotrophin receptor. It has been reported that neurotrophins are also produced from non-neuronal cells, such as leukocytes, osteoblasts, or fibroblasts, and act in many other ways on non-neuronal cells. Neurotrophin expression during bone fracture healing is especially interesting, and neurotrophins are now implicated in hard tissue regeneration. It is well known that neurotrophins and their receptors are expressed in tooth development. Recent studies have found that neurotrophins and Trk receptors are expressed in mouse osteoblastic cell lines. Human periodontal ligament cells, human gingival fibroblasts, and human gingival keratinocytes expressed mRNA for NGF and TrkA. The secretion of bioactive NGF peptides from human periodontal ligament cells and human gingival keratinocytes was confirmed by bioassay using PC12 cells (rat adrenal pheochromocytoma cells). The expression of NGF and TrkA.mRNA was regulated by interleukin (IL)-1beta. NGF increased DNA synthesis and expressions of mRNA for bone-related proteins, alkaline phosphatase, and osteopontin in human periodontal ligament cells. Neurotrophins and Trk receptors expressed in human periodontal tissue may contribute to regeneration as well as innervation of periodontal tissue through local autocrine and paracrine pathways. Recent data suggest that some functions of neurotrophins and Trk receptors relate to periodontal disease and periodontal tissue regeneration. However, in vivo studies will be required to clarify the roles of neurotrophins and their receptors, including p75, in periodontal disease and periodontal tissue regeneration.

=> logoff
ALL L# QUERIES AND ANSWER SETS ARE DELETED AT LOGOFF
LOGOFF? (Y)/N/HOLD:y

(FILE 'HOME' ENTERED AT 10:09:16 ON 10 JUN 2009)

FILE 'MEDLINE, BIOSIS, CAPLUS, EMBASE' ENTERED AT 10:09:42 ON 10 JUN 2009

L1	3876	SEA	FILE=MFE	SPE=ON	ABB=ON	PLU=ON	KURIHARA H?/AU
L2	290	SEA	FILE=MFE	SPE=ON	ABB=ON	PLU=ON	L1 AND PERIODON?
L3	16	SEA	FILE=MFE	SPE=ON	ABB=ON	PLU=ON	L2 AND NEUROTROPH?
L4	5	DUP	REM L3 (11 DUPLICATES REMOVED)				
L5	5694	SEA	FILE=MFE	SPE=ON	ABB=ON	PLU=ON	KAWAGUCHI H?/AU
L6	78	SEA	FILE=MFE	SPE=ON	ABB=ON	PLU=ON	L5 AND PERIODON?
L7	12	SEA	FILE=MFE	SPE=ON	ABB=ON	PLU=ON	L6 AND NEUROTROPH?
L8	4	DUP	REM L7 (8 DUPLICATES REMOVED)				
L9	14861	SEA	FILE=MFE	SPE=ON	ABB=ON	PLU=ON	TAKEDA K?/AU
L10	41	SEA	FILE=MFE	SPE=ON	ABB=ON	PLU=ON	L9 AND PERIODON?
L11	16	SEA	FILE=MFE	SPE=ON	ABB=ON	PLU=ON	L10 AND NEUROTROPH?
L12	5	DUP	REM L11 (11 DUPLICATES REMOVED)				
L13	818	SEA	FILE=MFE	SPE=ON	ABB=ON	PLU=ON	SHIBA H?/AU
L14	118	SEA	FILE=MFE	SPE=ON	ABB=ON	PLU=ON	L13 AND PERIODON?
L15	16	SEA	FILE=MFE	SPE=ON	ABB=ON	PLU=ON	L14 AND NEUROTROPH?

```
L16           5 DUP REM L15 (11 DUPLICATES REMOVED)
L17        3797 SEA FILE=MFE SPE=ON  ABB=ON  PLU=ON  MIZUNO N?/AU
L18          52 SEA FILE=MFE SPE=ON  ABB=ON  PLU=ON  L17 AND PERIODON?
L19          12 SEA FILE=MFE SPE=ON  ABB=ON  PLU=ON  L18 AND NEUROTROPH?
L20           4 DUP REM L19 (8 DUPLICATES REMOVED)
L21        3348 SEA FILE=MFE SPE=ON  ABB=ON  PLU=ON  YOSHINO H?/AU
L22          30 SEA FILE=MFE SPE=ON  ABB=ON  PLU=ON  L21 AND PERIODON?
L23           9 SEA FILE=MFE SPE=ON  ABB=ON  PLU=ON  L22 AND NEUROTROPH?
L24           3 DUP REM L23 (6 DUPLICATES REMOVED)
L25        2635 SEA FILE=MFE SPE=ON  ABB=ON  PLU=ON  HASEGAWA N?/AU
L26          27 SEA FILE=MFE SPE=ON  ABB=ON  PLU=ON  L25 AND PERIODON?
L27           8 SEA FILE=MFE SPE=ON  ABB=ON  PLU=ON  L26 AND NEUROTROPH?
L28           3 DUP REM L27 (5 DUPLICATES REMOVED)
L29        3603 SEA FILE=MFE SPE=ON  ABB=ON  PLU=ON  SHINOHARA H?/AU
L30          24 SEA FILE=MFE SPE=ON  ABB=ON  PLU=ON  L29 AND PERIODON?
L31           5 SEA FILE=MFE SPE=ON  ABB=ON  PLU=ON  L30 AND NEUROTROPH?
L32           2 DUP REM L31 (3 DUPLICATES REMOVED)
                DIS IBIB ABS L4 1-5

     FILE 'STNGUIDE' ENTERED AT 10:18:31 ON 10 JUN 2009

     FILE 'MEDLINE, CAPLUS' ENTERED AT 10:22:13 ON 10 JUN 2009
                DIS IBIB ABS L8 1-4

     FILE 'STNGUIDE' ENTERED AT 10:22:13 ON 10 JUN 2009

     FILE 'MEDLINE, CAPLUS' ENTERED AT 10:22:47 ON 10 JUN 2009
                DIS IBIB ABS L12 1-5

     FILE 'STNGUIDE' ENTERED AT 10:22:47 ON 10 JUN 2009

     FILE 'MEDLINE, CAPLUS' ENTERED AT 10:23:27 ON 10 JUN 2009
                DIS IBIB ABS L16 1-5

     FILE 'STNGUIDE' ENTERED AT 10:23:27 ON 10 JUN 2009

     FILE 'MEDLINE, CAPLUS' ENTERED AT 10:24:15 ON 10 JUN 2009
                DIS IBIB ABS L20 1-4

     FILE 'STNGUIDE' ENTERED AT 10:24:16 ON 10 JUN 2009

     FILE 'MEDLINE, CAPLUS' ENTERED AT 10:25:12 ON 10 JUN 2009
                DIS IBIB ABS L24 1-3

     FILE 'STNGUIDE' ENTERED AT 10:25:12 ON 10 JUN 2009

     FILE 'MEDLINE, CAPLUS' ENTERED AT 10:25:36 ON 10 JUN 2009
                DIS IBIB ABS L28 1-3

     FILE 'STNGUIDE' ENTERED AT 10:25:37 ON 10 JUN 2009

     FILE 'MEDLINE, CAPLUS' ENTERED AT 10:25:58 ON 10 JUN 2009
                DIS IBIB ABS L32 1-2

     FILE 'STNGUIDE' ENTERED AT 10:25:58 ON 10 JUN 2009
COST IN U.S. DOLLARS                          SINCE FILE      TOTAL
                                                   ENTRY    SESSION
FULL ESTIMATED COST                                 0.07     105.62

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)    SINCE FILE      TOTAL
                                                   ENTRY    SESSION
CA SUBSCRIBER PRICE                                 0.00      -6.56
```

STN INTERNATIONAL LOGOFF AT 10:26:06 ON 10 JUN 2009